

Fly to Australia in under five hours

Level 1 • Elementary

1 Key words

Fill the gaps in the sentences using these key words from the text.

hypersonic
cargo

mach
vapour

claustrophobia
environment

incredible
populated

weapons
message board

1. Water _____ is small drops of water in the air.
2. _____ is a unit for measuring the speed of an aircraft in comparison with the speed of sound.
3. _____ are things like guns and bombs which are used in wars.
4. A _____ is a place where Internet users write emails to each other about a particular subject.
5. If something is _____, it is difficult to believe.
6. If an area of the world is densely _____, a lot of people live there.
7. The _____ is the natural world, including the land, water, air and plants.
8. A _____ speed is a speed which is several times faster than the speed of sound.
9. _____ is the fear of being in a small or crowded place.
10. A _____ plane is one that carries goods instead of people.

2 Find the information

Look in the text and find this information as quickly as possible.

1. How many passengers will the A2 carry?
2. How fast will it be able to fly?
3. How long will the flight time from Brussels to Australia be?
4. How long will the A2 be?
5. What percentage of air travel could be hypersonic in 25 years' time?
6. How fast will the A2 fly across the North Pole?

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The hypersonic plane designed to reach Australia in under five hours

UK firm unveils exploratory plans for 3,000mph eco-friendly passenger jet

Steven Morris
February 5, 2008

- 1 It looks like something out of a science fiction film. A team of engineers and scientists in Britain has designed a plane that could fly to Australia from northern Europe in less than five hours. With money from the European Space Agency, they have designed the A2, a plane which could carry 300 passengers at a top speed of more than 3,000mph. The project is part of an EU programme to develop air travel. Scientists want to find out if it is possible to build a passenger plane with space travel technology.
- 2 A British company called Reaction Engines designs and develops space transport and rocket systems. Its directors are experts in different fields – from space rockets and weapons systems to nuclear power. One of the company's main projects is the development of *Skylon*, a space plane without a pilot, which will provide cheap and reliable space travel. The development of *Skylon* will take approximately ten years and it will be able to transport 12 tonnes of cargo into space.
- 3 Alan Bond, a senior engineer and managing director at Reaction Engines, says the A2 could be flying in less than 25 years' time, if people want to buy it. Bond says: "The A2 is designed to leave Brussels international airport, fly quietly over the north Atlantic at mach 0.9 (just below the speed of sound) before reaching a speed of mach 5 (five times the speed of sound) across the North Pole and flying over the Pacific to Australia. The flight time from Brussels to Australia will be four hours 40 minutes. This is incredible compared with the air travel of today but in the future people could make day trips to Australia."
- 4 Reaction Engines believes that the flight will cost about the same as a first class fare to Australia costs today. The company also says that the plane will not be able to reach the necessary speed with normal aviation fuels, so Reaction Engines has designed an engine that will use liquid hydrogen. Liquid hydrogen could be much better for the environment than normal aviation fuel. It doesn't produce large amounts of carbon but produces water vapour and nitrous oxide.
- 5 The A2 is 132 metres long and is much bigger than normal passenger jet aircraft but it will be lighter than a Boeing 747 and could land on normal airport runways. But there are a few problems. For one thing, the A2 will not be so good if you have claustrophobia, as it does not have windows. The speed of the A2 will produce a lot of heat and it will not be possible to use the type of windows used today. Reaction Engines says it could use flat TV screens instead of windows. The screens would show pictures of the sky outside the plane.
- 6 A lot of people are excited about this project and have been discussing the design on science and environment message boards. Some people think it will be too expensive to use for passenger transport. Others are worried that producing the liquid hydrogen could be bad for the environment. And some people are afraid that because the plane will fly at the height of the ozone layer it could cause damage to the atmosphere.
- 7 But Bond says that in 25 years time, 10% of air travel could be hypersonic. However, planes will not be able to fly at hypersonic speeds over populated areas, so routes like Europe to India will not be possible because planes will not be able to fly direct. But Bond thinks the A2 could get to California by travelling at a hypersonic speed across the Atlantic, then at a normal speed over the USA. Reaction Engines says the A2 will be quieter than supersonic planes like Concorde.
- 8 Bond agrees that the project is only just beginning. The next stage of the project is to find out the effect of the A2 on the environment. "Our work shows that the A2 is possible technically; now the world has to decide if it wants it."

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First published in *The Guardian*, 05/02/08

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3 Comprehension check

Match the beginnings with the endings to make sentences about the text.

1. The A2 will not fly from Europe to India because...
 2. Some people are worried because...
 3. The A2 will be much bigger...
 4. The A2 will be quieter...
 5. Flying to Australia on the A2 will not be more expensive than...
 6. The A2 will use liquid hydrogen because...
-
- a. ... the cost of a first class ticket to Australia on a normal plane.
 - b. ... than normal passenger jet aircraft.
 - c. ... it will not be able to reach the necessary speed with normal aviation fuel.
 - d. ... it cannot fly over populated areas.
 - e. ... than supersonic planes like Concorde.
 - f. ... liquid hydrogen could be bad for the environment.

4 Vocabulary 1: Chunks

Rearrange the words to make phrases from the text. Check your answers in the text.

1. than hours less five _____
2. space and cheap travel reliable _____
3. than 25 less years' time in _____
4. the sound just speed below of _____
5. the for environment bad _____
6. the cause to damage atmosphere _____

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5 Vocabulary 2: Noun + noun collocations

Match the words in the left-hand column with those in the right-hand column to make expressions from the text.

- | | |
|--------------|-------------|
| 1. day | a. plane |
| 2. science | b. director |
| 3. managing | c. travel |
| 4. liquid | d. fiction |
| 5. passenger | e. trip |
| 6. space | f. hydrogen |

6 Vocabulary 3: Word building

Complete the table using words from the text.

verb	noun
1. develop	
2. fly	
3.	discussion
4.	design
5. transport	
6. damage	
7. react	
8.	agreement

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KEY

1 Key words

1. vapour
2. mach
3. weapons
4. message board
5. incredible
6. populated
7. environment
8. hypersonic
9. claustrophobia
10. cargo

2 Find the information

1. 300
2. 3,000mph
3. Four hours 40 minutes
4. 132 metres
5. 10%
6. Mach 5 (five times the speed of sound)

3 Comprehension check

1. d
2. f
3. b
4. e
5. a
6. c

4 Vocabulary 1: Chunks

1. less than five hours
2. cheap and reliable space travel
3. in less than 25 years' time
4. just below the speed of sound
5. bad for the environment
6. cause damage to the atmosphere

5 Vocabulary 2: Noun + noun collocations

1. e
2. d
3. b
4. f
5. a
6. c

6 Vocabulary 3: Word building

verb	noun
1. develop	development
2. fly	flight
3. discuss	discussion
4. design	design
5. transport	transport
6. damage	damage
7. react	reaction
8. agree	agreement